

DESCRIPTIONS OF NEW OR LITTLE - KNOWN  
SPECIES OF BLATTARIÆ, GRYLLACRIDÆ,  
AND STENOPELMATIDÆ COLLECTED AT LAKE  
CALLABONNA, S.A.

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[Read November 6, 1894.]

The various forms of Orthopterous insects which form the subject of these notes were collected by Mr. A. Zietz during the latter half of 1893, at Lake Callabonna, as bye-work whilst engaged there in the exhumation of Diprotodon and other fossil remains. The specimens referred to form part of the entomological collection in the South Australian Museum.

SECTION BLATTARIÆ.

FAMILY PHYLLODROMIDÆ.

PHYLLODROMIA MAGNA, *spec. nov.*

Ochreous testaceous; head only *slightly* prominent, face with a broad blackish band between the bases of the eyes; antennæ blackish, basal joints pale; pronotum slightly *wider than long*, *emarginate in front*, with two broad straight black stripes, wider behind (*not curved*), space between them of the *same* color as the margins and the elytra; elytra concolorous (wings not observed), veins dark, branches parallel, only divergent at the base; legs pale, concolorous; abdomen above banded with black, ventral segments each with an intramarginal black spot; cerci blackish, banded pale; subgenital lamina broad, rotundate, with a short dark oblique streak on each side, and a blackish dot near the apex.

					Female.
Length of body ...	...	...	...	21	mm.
Length of elytra ...	...	...	...	22	"
Length of pronotum ...	...	...	...	3·5	"
Width of pronotum ...	...	...	...	4	"

The single specimen obtained appears to resemble *P. Germanica*, L., but is much larger, the pronotum less transverse, the black stripes of unequal width, and the anterior margin distinctly emarginate; whilst the branches of the radial vein of the elytra only diverge at the base, being otherwise parallel throughout.

The abdomen also is differently marked. This species appears to be the largest hitherto described.

PARATEMNOPTERYX ZIETZII, *spec. nov.*

Brown to blackish, paler below, shining; head free, an ill-defined, narrow, curved black bar between the eyes; *ocelliform spots obsolete*; clypeus pale, basal area of the antennæ whitish, latter very slender, as long as the body, pale brown. Pronotum elliptical, margins very narrow, disk more or less distinctly excavated, angles rounded, hindmargin straight. Elytra nearly *quadrangular* veins distinct, raised, scarcely *exceeding the first abdominal segment*. Wings rudimentary. Legs uniformly pale brown, fore femora crowdedly spinose, all more or less ciliate (tarsi without arolia). Abdomen with dorsal segments finely scabrous along the hind margins, angles not produced, except those of last segment. Ventral segments brown to black, shining. Supra-anal lamina *longer than wide*, subtrigonal, *posterior third incurved*, apex rounded. Cerci very long, acute. Subgenital lamina very large, cucullate, hindmargin entire, bearing the short, suberect styles; latter black above, pale beneath.

	Adult males.	Male and female larvæ.
Length of body ...	18 -19 mm.	13-15 mm.
Length of elytra ...	4 - 5 "	—
Length of pronotum	4·5- 4·8 "	3-3·5 "
Width of pronotum	6 - 6·5 "	4-5 "

There are two full-grown males and three larvæ, one of them apparently a female. The species is distinguished from *P. australe*, Sauss., by its larger size, absence of ocelliform spots, much shorter elytra, and the peculiar form of its anal appendages. The larvæ are much darker, inclining to black. The vertex of the head is paler than the very dark face.

FAMILY PERISPHAERIDÆ.

LEPIDOPHORA, *gen. nov.*

Resembling *Perisphaeria glomeris*, Sauss., in aspect. Body convex, elongate, stout. Anterior angles of dorsal segments produced laterally as a subtrigonal scale overlapping imbricately the respective ventral segments at their base. Supra-anal lamina quadrate, posterior angles produced as short spines. Subgenital lamina subtrigonal, apex produced, forming two conspicuously diverging spines. Styles slender, as long or longer than the lamina.

The scale-like appendages along the lateral ventral margin, to which the name refers, are apparently a novel character among

the Blattariæ, as I have hitherto not observed it myself, and I am unacquainted with any reference thereto either by description or figure in the literature available. Similarly the form assumed by the subgenital lamina is quite unusual. These features justify therefore, I think, the establishment of a new genus for the species, which for the present at least is located among the Perisphæridæ, to which in general aspect it appears to fit best, but it may require, when better known, to be removed elsewhere.

LEPIDOPHORA FURCATA, *spec. nov.*

Black, finely rugulose, wingless. Body much curved. Head concealed, glossy; vertex and face reddish-piceous; sides, foremargin of clypeus, and trophi pale testaceous. Antennæ much shorter than the pronotum, slender, reddish. Eyes irregularly reniform or wedge-shaped. Pronotum elliptical, margin narrow, not much reflexed, laterally incrassated, less so in front, arched; hindmargin concave, angles subacute. Meso- and metanotum similar. Abdomen dorsally almost smooth, hindmargin of segments with minute raised points, straight, rectangular laterally, angles of the seventh segment produced as a short red spine; beneath piceous laterally, disk reddish, penultimate ventral segment narrow, reddish. Legs rather short; internal spines of fore femora short, crowded, very numerous, external ones longer, few, and distant. Coxæ pale testaceous, base piceous, remainder reddish. Tarsi long, beneath dilated, whitish. Supra-anal lamina with hindmargin ciliate, pale reddish. Cerci lanceolate acute, longer than the lamina, dark red. Styles reddish.

	Male.			
Length of body...	...	...	...	24 mm.
Length of pronotum	...	...	...	6·6 "
Width of pronotum	...	...	...	10·5 "

A single male was obtained, but I have since got another from elsewhere. The specific name refers to the peculiar form of the supra-anal appendage.

SECTION LOCUSTODEA.

FAMILY GRYLLACRIDÆ.

EONIUS CALLABONNENSIS, *spec. nov.*

Resembling *E. tigrinus*, mihi (Trans. Roy. Soc. S.A., XV., 163), paler. Vertex and front of the head pale, clouded darker; apex of mandibles obliquely truncate, toothed, *deep black*. Pronotum with the fore and hindmargin each slightly marked with a blackish band, longer than in the allied species. Elytra ovate, slightly extending beyond the hindmargin of the meta-

notum, veins distinct. Wing-lobes rudimentary, concealed by the elytra. Hind femora with *six pairs* of small spines. Hind tibiae with four to six external and six to eight internal spines, all black at the apex. Femora near apex, and all the tibiae and tarsi, hirsute, like *E. tigrinus* (omitted to state in monograph). Ovipositor *very slender* and long, nearly straight, acute, apex black.

				Female.	
Length of body	...	...	...	36	-37 mm.
Length of elytra	...	...	...	55-	6 "
Length of pronotum	...	...	...	7	- 8 "
Length of hind femora	...	...	...	19	-20 "
Length of ovipositor	...	...	...	43	-48 "

The two specimens obtained differ principally from *E. tigrinus* (independently of color and size) in the black, toothed apex of the mandibles, almost concolorous pronotum, much longer elytra, different arrangement and size of spines, and the more slender ovipositor; from *E. atrofrons* and *E. fumatus* in much larger size, pale head, and number, &c., of spines.

The ova were extracted from both the specimens, and proved to be nearly mature, in the one more so than in the other. One yielded 47, the other 24, a small proportion were only about half-grown. The mature ones were brown, elongate elliptical, 5-5.5 mm. in length, somewhat thicker on one end than the other, each terminating with a circular, smooth, shining, darker lid, the intermediate portion being ornamented with crowded microscopical papilla, arranged in regular diagonals. The small, immature (or male?) ova are almost cylindrical.

EONIUS ATROFRONS, *Tepper* (Trans. Roy. Soc. S.A., XV., p. 164).

Two specimens were secured, viz., a nearly mature male nymph (the first example of this sex for the genus) and a female larva. As the species was originally established from a single female, these not only confirm its validity, but the former supplements the generic description, hence a full description becomes necessary.

Male (nymph) similar to female, but considerably smaller. Abdominal segments 8 and 9 almost concolorous; hindmargin of the latter straight, angles lobe-like produced. Supra-anal lamina transverse, divided by four furrows into five unequal parts, the central sulcus produced posteriorly as a dilated rotundate lobe, and longer than the basal part. Cerci very short, apex blackish. Subgenital lamina small, subquadrangular, rather longer than wide, simple. Styles minute.

	Male.	Fem. larva.
Length of body ...	21.5 mm.	18 mm.
Length of pronotum ...	4 "	3 "
Length of elytra ...	2 " (rud.)	—
Length of hind femora	10 "	8 "

The black face is so conspicuously characteristic of the species that it scarcely can be mistaken for any other yet known. The ovipositor of the female larva is scarcely conspicuous.

#### FAMILY STENOPELMATIDÆ.

PENTHOPLOPHORA DRIFFELDI, *Tepper* (Trans. Roy. Soc. S.A., XV., p. 175).

Of this species fifteen specimens were obtained, viz., six adult and four larval males, and one adult and four larval females, the larvæ representing various ages, the youngest being only 9 mm. in length, while the oldest is almost full grown, but presents the ovipositor still in its recurved position, and much abbreviated. This being the first instance of males having been secured, the description is added.

Male. Similar to female, somewhat smaller, paler, and the markings less defined. Abdomen with the eighth segment cucullate, hindmargin sinuate, angles and middle slightly produced, rotundate, concave parts with numerous, minute, dark-brown toothlets; the ninth segment only exposed posteriorly, contracted, trigonal, apex broadly rotundate, disk on each side with a conical protuberance surrounded by a depression, its apex formed by a small, blackish, outwardly curved acute spine, from which extends laterally a short blackish ridge. Cerci short, slender, hirsute, pale. Last ventral segment of abdomen transverse, hind margin very sinuate, middle much produced with two short, thick, obtuse, blackish spines near apex. Styles short, glabrous, apex blackish.

	Adult.	Larvæ.
Length of body (Male)	30-40 mm.	9 -26 mm.
Length of pronotum ...	5- 6 "	1.5- 4 "
Width of pronotum ...	8- 9 "	2 - 6 "

The considerable difference in length is most probably largely due to unequal contraction after death while immersed in alcohol, through which also the color has been considerably affected.

The dark bands are caused by a pigment, so loosely deposited upon the thin translucent integument, that it becomes detached when one attempts to remove the intestines, no matter how carefully. This may serve as a hint for recipients of spirit specimens, or fresh ones as well, who may attempt the operation. If the specimens have been preserved in weak spirit, I find it best to



immerse them in strong spirit for a sufficient time to harden them; then mount quickly, as most of them when drying rapidly retain their shapes fairly well.

These insects, as stated by Mr. A. Zietz, inhabit (singly) burrows excavated by themselves in sandy parts of the lake basin. They are perfectly circular in form, about three-quarters of an inch in diameter, twelve to eighteen inches deep, and at the bottom somewhat dilated so as to allow the inhabitant to turn round easily. Where the sand is dry, *i.e.*, the upper part of the shaft, the grains on its surface are securely fixed by some cement. Around the mouth a mound, an inch or more, raises the entrance by so much above the general surface, and is sloping outwardly. The pellets of excavated soil are carried by the insect to a distance of six to nine inches from the entrance, and disposed there in a regular circle. When a grass stalk is first pushed into the hole, the insect comes up to ascertain the cause of disturbance, and then withdraws, and will not come up again. When dug out, they refuse to fly from their foe, but will resolutely face him, whatever way he turn, standing on the defensive, and move rather towards him than otherwise.

